

Digital Communication I

Homework 2: due 2:20pm, Nov. 5

1. Problem 4.14
2. Problem 4.24
3. Please plot the phase trajectory for binary partial response CPM signal based on GMSK scheme with $BT = 0.2$. Assume that the transmitted sequence is the same as that in Fig. 4.3-19.
4. For the binary CPM signal defined by Eqs. 4.4-27 and 4.4-28 with equal-probable $I_k = \pm 1$, what is the root-mean-square bandwidth of the CPM signal?
Hint: See Problem 1 of HW1. Express the results as a function of, for example, $\int_{-\infty}^{\infty} g^2(t)dt$.
5. Problem 4.21
6. Please plot by yourself, the power spectrum of Miller code.
Hint: You cannot use formula Eq. (4.4-71) directly.